

In the Claims:

Following is a complete listing of the claims pending in the application, as amended:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (New) A method of implementing a sliding window protocol for transmitting frames in a communication system, the method comprising:
 - at a data receiving unit, identifying a failure to successfully receive a frame sent over a first channel from a data sending unit implementing a sliding window under the sliding window protocol, wherein the lost frame has a sequence number;
 - establishing a second channel between the data sending unit and the data receiving unit; and
 - sending a request for retransmission of the lost frame over the established second channel, and wherein use of the second channel allows the sliding window at the data sending unit to be advanced beyond the sequence number of the lost frame prior to receiving an acknowledgement of receipt of the lost frame from the data receiving unit.
6. (New) The method of claim 5 wherein the second channel is a logical tunnel channel.
7. (New) The method of claim 5, further comprising:

receiving the lost frame at the data receiving unit, wherein the lost frame is received via the second channel.

8. (New) The method of claim 5, further comprising:

sending an acknowledgement of receipt of the lost frame at the data receiving unit.

9. (New) The method of claim 5 wherein the data receiving unit has a receive sliding window.

10. (New) The method of claim 5 wherein a rate of data transfer from the data sending unit to the data receiving unit is different from a rate of data transfer from the data receiving unit to the data sending unit.

11. (New) A method of transmitting frames in a communication system, the method comprising:

at a data receiving unit, identifying a failure to successfully receive a lost frame sent over a first channel from a data sending unit under a moving window scheme, wherein the lost frame has a sequence number N ;

establishing a second channel between the data sending unit and the data receiving unit; and

sending a request for retransmission of the lost frame over the second channel, wherein use of the second channel allows the moving window at the data sending unit to be advanced beyond the sequence number of the lost frame to a maximum point of $N-1$ prior to receiving an acknowledgement of receipt of the lost frame from the data receiving unit.

12. (New) The method of claim 11 wherein the second channel is a logical tunnel channel.

13. (New) The method of claim 11 wherein the data receiving unit has a receive moving window.

14. (New) The method of claim 11 wherein the data receiving unit has a receive moving window and wherein the data receiving unit acknowledges receipt of frames having sequence numbers outside the receive moving window.

15. (New) The method of claim 11, further comprising:
acknowledging receipt of frames irrespective of when the moving window at the data sending unit closes.

16. (New) A method of implementing a sliding window protocol for transmitting frames in a communication system, comprising:

at a data receiving unit, identifying a failure to successfully receive, over a first channel, a lost frame sent from a data sending unit under a sliding window of the sliding window protocol;
establishing a second channel between the data sending unit and the data receiving unit; and
sending a request for retransmission of the lost frame over the second channel, wherein use of the second channel allows the transmit window to advance without receiving an acknowledgement of receipt of the lost frame; and
setting a first timer at the data receiving unit, wherein expiration of the first timer before receipt of the lost frame results in resending the request for retransmission of the lost frame.

17. (New) The method of claim 16 wherein the second channel is a logical tunnel channel.

18. (New) The method of claim 16, further comprising:

continuing to send frames over the first channel without receiving an acknowledgement of receipt of the lost frame.

19. (New) An apparatus for use in a communication system implementing a sliding window protocol, the apparatus configured for receiving frames from a data sending unit, the apparatus comprising:

means for identifying a failure to successfully receive, via a first channel, a lost frame sent from a data sending unit implementing a sliding window under the sliding window protocol, wherein the lost frame has a sequence number;

means for establishing a second channel between the data sending unit and the data receiving unit; and

means for sending a request for retransmission of the lost frame via the second channel, wherein use of the second channel allows the sliding window at the data sending unit to be advanced beyond the sequence number of the lost frame prior to receiving an acknowledgement of receipt of the lost frame from the receiver.

20. (New) The apparatus of claim 19, further comprising:

means for setting a first timer at the data receiving unit, wherein expiration of the first timer before receipt of the lost frame will result in resending the request for retransmission of the lost frame.

21. (New) A method of implementing a sliding window protocol for transmitting frames in a communication system, the method comprising:

sending a frame to a data receiving unit, wherein the frame is sent over a first channel;

based on the sent frame, advancing a transmit sliding window, wherein the transmit sliding window is advanced without receiving an

acknowledgement of receipt of the sent frame from the data receiving unit;

receiving, via a second channel, a request to resend a previously sent frame that was identified by the data receiving unit as not successfully received; and resending the previously sent frame over the second channel.

22. (New) The method of claim 21 wherein the second channel is a logical tunnel channel established by the data receiving unit.

23. (New) The method of claim 21 further comprising:
continuing to send frames over the first channel without receiving an acknowledgement of receipt of the lost frame.

24. (New) A method of implementing a moving window protocol for transmitting frames in a communication system, comprising:

sending a frame to a data receiving unit, wherein the frame is sent over a first channel, and wherein the frame has a sequence number N ;

based on the sent frame, advancing a transmit moving window without receiving an acknowledgement of receipt of the sent frame, wherein the sliding window can be advanced to a maximum point of $N-1$;

receiving, via a second channel, a request for retransmission of the sent frame, wherein the sent frame was identified by the data receiving unit as not successfully received; and

resending the previously sent frame to the data receiving unit over the second channel.

25. (New) The method of claim 24 wherein the second channel is a logical tunnel channel established by the data receiving unit.

26. (New) A method of implementing a sliding window protocol for transmitting frames in a communication system, the method comprising:

sending a frame to a data receiving unit, wherein the frame is sent over a first channel;

based on the sent frame, advancing a transmit sliding window, wherein the sliding window is advanced without receiving an acknowledgement of receipt of the sent frame;

receiving over a second channel a request for retransmission of the sent frame, wherein the sent frame was identified by the data receiving unit as not successfully received;

based on the received request for retransmission, setting a timer and resending the frame to the data receiving unit over the second channel; and

if the timer expires before successful receipt of the resent frame by the receiver, resending the frame again and resetting the timer up to a maximum number of times.

27. (New) The method of claim 26, further comprising:

continuing to send frames over the first channel without receiving an acknowledgement of receipt of the lost frame.

28. (New) The method of claim 26 wherein the frame is sequentially numbered.

29. (New) The method of claim 26 wherein the second channel is a logical tunnel channel established between the receiver and the transmitter.

30. (New) An apparatus for use in a communication system implementing a sliding window protocol, the apparatus configured for transmitting frames to a data receiving unit, the apparatus comprising:

means for sending a frame to a data receiving unit over a first channel, wherein the frame is sequentially numbered;

means for advancing a transmit sliding window based on the sending of the frame, wherein the sliding window is advanced without receiving an acknowledgement of receipt of the sent frame by the data receiving unit;

means for receiving over a second channel, a request to resend a previously sent frame that was identified by the data receiving unit as not successfully received; and

means for resending the previously sent frame over the second channel.

31. (New) The apparatus of claim 30, further comprising:

means for, based on the received request for retransmission, setting a timer and resending the frame to the data receiving unit over the second channel; and

means for resending the frame again up to a maximum number of times upon expiration of the timer.